

Mobile App Programming II Bibliography Part II

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References

- [10.1] Kirkpatrick, Keith. Still waiting for self-driving cars. *Commun. ACM*, 65(4):12–14, mar 2022.

Abstract: The introduction of self-driving cars has garnered a large media presence over the last several years. While experts have been calling for public release of fully autonomous vehicles for a few years now, the reality is that safety concerns and regulatory issues remain largely in the way. Out of the 5 levels of autonomous driving capability, most new cars fall somewhere within the first three levels. As for the technology, it simply isn't there yet. The cameras and sensors that detect the world around the vehicle as well as the algorithms that act upon this data are still years away from being perfected. As a matter of fact, there are an indefinite number of variables that the AI of an autonomous vehicle needs to be able to handle which is no small task. The systems involved in training autonomous vehicles also require some degree of understanding of human behaviors. For instance, when a pedestrian is crossing the road, who may or may not be aware of the presence of the driver of the vehicle. Creating an autonomous vehicle that is aware of social cues is an intensive process that may take years and massive compute power to accomplish. In addition to the technology, one of the biggest challenges self-driving cars are facing is regulatory clarity. One cause for concern with self-driving vehicles is due to all the distractions built

into the vehicles that can lead to a driver not paying attention to the road.

- [10.2] Smallwood, Thomas R. C., Lefebvre, Véronique, and Bengtsson, Linus. Mobile phone usage data for disaster response. *Commun. ACM*, 65(4):40–41, mar 2022.

Abstract: Natural disasters can affect large populations and displace people from their homes. The act of mobilizing data to help identify locations of those affected can help humanitarian efforts during times of crisis. By aggregating Call Detail Records (CDRs) with the support of Mobile Network Operators (MNOs), it is possible to gain insight about the location of a population without breaching privacy. CDRs typically contain information such as the time of a call or text message, and the cell site the communication was routed through. Since the CDR data is collected in large quantities in near real-time, tracing the location of populations can be done rather quickly during a disaster. Due to being the most valuable indicators during a disaster, the process of disseminating indicators from CDR data remains to be an area for improvement.